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## First Steps Phase II Initiative: Improving Developmental, Autism, and Lead Screening for Children

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**Improving Health Outcomes for Children (IHOC)**

# **First STEPS Phase II Initiative: Improving Developmental, Autism, and Lead Screening for Children**

## **Final Evaluation Report**

UNIVERSITY OF SOUTHERN MAINE  
Muskie School of Public Service

August 2013



## About this Study

This report was written by Carolyn Gray, Kimberley Fox, and Martha Elbaum Williamson at the Cutler Institute of Health and Social Policy, Muskie School of Public Service at the University of Southern Maine. This is the final evaluation report of the First STEPS (Strengthening Together Early Preventive Services) Phase II Improving Developmental, Autism, and Lead Screening for Children learning initiative. This report assesses changes in developmental, autism, and lead screening rates and evidence-based office processes in participating practices during the initiative, as well as related systems changes. We also summarize lessons learned in implementing changes in practices and challenges in using CHIPRA and IHOC developmental, autism, and lead screening measures at the practice-level to inform quality improvement.

We would like to thank the participating practices and the following individuals and organizations for their time and effort to make the evaluation and final report possible. In particular, we would like to thank Dr. Amy Belisle, Director of Quality Counts for Kids, and Sue Butts-Dion, Program Manager for First STEPS, for their support of the evaluation as an integral part of the learning sessions and their assistance in collecting office system surveys from practices. We also thank our colleagues at the Muskie School of Public Service, Stuart Bratesman and Catherine Gunn, who provided data collection support for monthly reporting to practices as well as assisting the evaluation team in aggregating and interpreting chart review data, and Tina Gressani who assisted with the analysis of MaineCare claims. We also would like to thank Kyra Chamberlain for her insight into policy implications and coordination with stakeholders, and Pamela Ford-Taylor for providing administrative support. We also thank Amy Dix, Dr. Kevin Flanigan, and Luc Nya of the Office of MaineCare Services; Eric Frohmborg, Susan Lee, Toni Wall, Nell Tharpe, and Dr. Christopher Pezzullo at the Maine Centers for Disease Control; Nancy Cronin at the Maine Developmental Disabilities Council; Cindy Brown and Kim Appleby of the Office of Child Developmental Services; and pediatric developmental specialists Dr. Carol Hubbard and Dr. Steve Meister for their input on related system changes. Finally, we thank all the clinicians and staff at the twelve practices that participated in First STEPS Phase II, who gave their time and effort to collect data and participate in interviews about their experience, without which this evaluation would not have been possible.

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The views expressed are those of the authors and do not necessarily represent the views of either the Department or the School. For further information regarding this report, or the broader evaluation of the local IHOC initiative, please contact Kim Fox at [kfox@usm.maine.edu](mailto:kfox@usm.maine.edu).

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## Executive Summary

In February 2010, Maine and Vermont were awarded a five-year demonstration grant from the Centers for Medicare and Medicaid Services (CMS) to improve the quality of health care for children insured by Medicaid and the Children's Health Insurance Program (CHIP).<sup>1</sup> Maine's Department of Health and Human Services' (DHHS) Office of MaineCare Services (OMS) received the Improving Health Outcomes for Children (IHOC) grant in partnership with the Maine Center for Disease Control, the Muskie School of Public Service at the University of Southern Maine (MSPS), Vermont's Medicaid Program, and the University of Vermont. In Maine, IHOC brings together public and private health stakeholders to standardize the delivery of preventive and follow up care for children and to meet quality improvement goals of the Office of MaineCare Services.

As part of IHOC, Maine Quality Counts is leading the First STEPS (Strengthening Together Early Prevention Services) Learning Initiative to support Maine's pediatric and family practices in improving preventive and screening processes. The purpose of First STEPS is to increase the rate of Early, Periodic, Screening, Diagnosis, and Treatment (EPSDT) services for children receiving MaineCare benefits by providing tools and data monitoring, offering comprehensive educational support, and engaging primary care practices in multiple change interventions to build patient centered medical homes for children. It is expected that improving rates of preventive services and proactively identifying children's unique needs will result in children and families accessing necessary medical and developmental services earlier, thereby reducing disease. As a result of these positive changes, it is anticipated that health outcomes for children and families in Maine will be improved.

The First STEPS Learning Initiative has been implemented in phases. The second phase, which is the focus of this report, focused on improving developmental, autism, and lead screening rates for children under age three. Phase II began in May 2012 and ended in December 2012. Twelve pediatric and family practices, which included 45 physicians that serve an estimated 20,000 children with MaineCare coverage, agreed to participate. As part of the initiative, practices tracked both (i) improvements of specific IHOC measures for developmental, autism, and lead/anemia screening and (ii) rates of referrals to developmental specialists and Children's Developmental Services. Of the 12 Phase II practices, nine reported pre/post chart review data on all measures. The goal of Phase II was to improve all of these rates by 50% above baseline with the target of achieving rates of 75% for each measure based on chart review data. This was to be accomplished by implementing changes in office procedures advocated by the American Academy of Pediatrics' Bright Futures curriculum.

The evaluation of Phase II used a mixed methods approach, which included information from chart review, MaineCare claims data, administrative data supplied by other programs, self-reported pre/post office surveys, and interviews with participating practices and other key stakeholders and programs. This evaluation report details changes in office practices and screening rates by the end of Phase II. It also summarizes lessons learned

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<sup>1</sup> CHIPRA quality demonstration grants are authorized by Section 401(d) of the Child Health Insurance Program Reauthorization Act (CHIPRA).

in implementing changes in practice and systems-level changes that have been made to improve rates of developmental, autism, and lead/anemia screenings and measurement in the state. Key findings include:

### Practice-Level Changes

**Most Phase II practices integrated developmental screening into well child visits; fewer focused on autism and lead screening.**

Phase II practices selected the specific screenings on which they wished to focus their quality improvement work.

- Most practices focused on increasing general developmental screening for children under age three adopting the Ages and Stages Questionnaire (ASQ) or the Parents' Evaluation of Developmental Status (PEDS) that IHOC had purchased for their use.
- One-quarter of practices implemented changes in autism or lead screening procedures.

**Developmental and autism screening rates in reporting Phase II practices more than doubled in all age groups and exceeded 75% screening targets in several age groups.**

- Based on chart review data, developmental screening rates using a validated tool (ASQ or PEDS) more than doubled for children by age one and three, and more than tripled for children age two.
- By the end of Phase II, nearly all children under one (97%) received an ASQ or PEDS screen.
- Autism screening using the M-CHAT Level I or II increased from 56% to 82% for children under three.<sup>2</sup>

**Increased billing and improved coding of developmental and autism screenings to MaineCare improved claims-based rates.**

During Phase II, the state worked with IHOC staff to improve the data collected through MaineCare claims on developmental and autism screenings by clarifying screening reimbursement and piloting modifier codes in Phase II practices. As a result:

- Developmental screening rates calculated from MaineCare claims for all First STEPS Phase II practices nearly tripled for children age one (from 5.3% in the year prior to Phase II to 17.1% in the year after Phase II), rose more than seven times for children age two (from 1.5% to 13.3%), and nearly doubled for children age three (from 1.2% to 3.3%).
- Statewide rates during this same period also increased at a more modest rate, potentially suggesting a 'spread-effect' of First STEPS Phase II and the related systems changes to other practices in the state.
- Billing for M-CHAT I screens for one- and two-year-olds also has steadily increased since Phase II was implemented both statewide and in First STEPS Phase II practices, but at a lower rate of increase than developmental screening.

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<sup>2</sup> Rates reflect all nine practices reporting chart review data, suggesting increased screening even in practices that did not specifically make changes in autism screening procedures.

### **Using new screening tools helped identify developmental delays earlier and increased tracking, follow-up and referrals for treatment.**

After Phase II, more practices reported having a systematic approach for monitoring and tracking children identified as at risk for developmental delays or autism.

- All practices followed up on concerns noted during developmental screening or an M-CHAT I at the next well child visit (up from 83% before Phase II).
- Most practices also indicated they would schedule a specific visit to address the concern (83%), or refer the child to a developmental pediatrician (83%) and all practices said they would refer to early intervention through Child Development Services (CDS) and to audiology clinics for hearing tests.
- Less than half of the practices tracked developmental pediatrician or CDS referrals in charts before Phase II but after participation almost all (eight out of nine reporting in the chart reviews for developmental pediatricians and seven out of nine for CDS) were tracking these referrals.
- Practices also reported shorter timeframes from referral to patients getting follow-up care or further evaluation.

### **Administrative referral data provided by CDS and one pediatric developmental specialist group confirmed that referrals from Phase II practices increased.**

- While statewide referrals to CDS declined slightly between May-Dec 2011 and May-Dec 2012, for Phase II practices the average number of referrals to CDS increased by 40% — from an average of 13 per month in 2011 to 18 per month in 2012 (or from 103 to 144 referrals between the same eight month period in 2011 and 2012).
- Referrals from Phase II practices to one particular pediatric developmental specialist group increased from 27 prior to Phase II to 35 after Phase II.

### **There were some increases reported in lead screenings in Phase II practices and an increase in statewide lead testing rates.**

- Prior to Phase II, the rate of administration of lead screening questionnaires was approximately 60%, but that rate increased to 85% after Phase II.
- Practices exceeded the goal of screening 75% of children for both children under age one and under age two (88% at 12 months; 79% at 24 months).
- Statewide lead testing rates supplied by the Maine Childhood Lead Poisoning Prevention Program (MCLPPP), revealed that lead testing for one- and two-year-olds has been steadily increasing over the last several years but increased at a faster rate between 2011 and 2012. While not specific to First STEPS practices, MCLPPP officials suggested that these improved testing rates may be related to both the work of First STEPS Phase II and increased education and outreach by the MCLPPP.

## **System-level Changes**

**Success in piloting new developmental screening codes in Phase II practices led to MaineCare implementing changes statewide.**

Based on interviews with MaineCare officials, one of the greatest benefits of First STEPS Phase II was that it provided a platform for provider feedback about how to improve claims data for the purposes of measuring developmental and autism screening rates and piloting new billing codes and modifiers prior to statewide implementation.

**Phase II provided opportunity for direct provider feedback on implementation of a new state law to increase lead testing for children.**

During Phase II, the MCLPPP was implementing a new state law, “An Act to Increase the Availability of Lead Testing for Children” (MSRA § 1319), which allowed for use of in-office lead testing devices, as on-site testing was expected to reduce barriers to patient compliance. The initiative had originally planned to use the state registry system (ImmPact) as the vehicle for practice’s to report lead testing data to the state. When it was discovered that ImmPact could not be used to support lead testing reporting, the program sought feedback from First STEPS Phase II practices about different reporting scenarios, which influenced rulemaking and the reporting process for practices using in-office lead testing.

**Phase II identified the need for greater standardization of developmental screening between primary care and other educational and social service programs.**

Phase II practices implementing developmental screens for the first time discovered that some of their patients had already been screened by other community-based service agencies. This resulted in duplicative work for parents to complete questionnaires and, in some cases, conflicting results. The Phase II learning initiative helped identify the need for greater standardization of screening across early intervention, education and social service agencies as well as greater communication of results with primary care. The identification of this gap in Phase II was one of the contributing factors that led to the state’s applying for a Health Resources and Services Administration (HRSA) Early Childhood Comprehensive Systems Grant to standardize developmental screening and develop a mechanism for sharing results between social service, education, and clinical providers across the state.



## Introduction

In February 2010, Maine and Vermont were awarded a five-year demonstration grant from the Centers for Medicare and Medicaid Services (CMS) to improve the quality of health care for children insured by Medicaid and the Children's Health Insurance Program (CHIP).<sup>3</sup> Maine's Department of Health and Human Services' (DHHS) Office of MaineCare Services (OMS) received the Improving Health Outcomes for Children (IHOC) grant in partnership with the Maine Center for Disease Control, the Muskie School of Public Service at the University of Southern Maine (MSPS), Vermont's Medicaid Program, and the University of Vermont. In Maine, IHOC brings together public and private health stakeholders to standardize the delivery of preventive and follow up care for children and to meet quality improvement goals of the Office of MaineCare Services.

As part of IHOC, Maine Quality Counts is leading the First STEPS (Strengthening Together Early Prevention Services) Learning Initiative to support Maine's pediatric and family practices in improving preventive and screening processes and building medical homes for children. First STEPS provides wide-ranging and in-depth quality improvement, coaching, data monitoring of standardized quality measures and educational support to pediatric and family medicine practices as they continue to enhance health outcomes for children.

The purpose of the First STEPS Learning Initiative is to increase the rate of Early, Periodic, Screening, Diagnosis, and Treatment (EPSDT) services for children receiving MaineCare benefits by providing tools and data monitoring, offering comprehensive educational support, and engaging primary care practices in multiple change interventions to build patient centered medical homes for children. It is expected that improving rates of preventive services and proactively identifying children's unique needs will result in children and families accessing necessary medical and developmental services earlier, thereby reducing disease. As a result of these positive changes, it is anticipated that health outcomes for children and families in Maine will be improved.

The First STEPS Learning Initiative is being implemented in phases, with each phase having a different focus. Phase I (September 2011 - April 2012) was focused on childhood immunizations. Phase II (May 2012-December 2012) was focused on developmental, autism, and lead screening for children. Phase III (April 2013 - November 2013) is focused on oral health and healthy weight.

This evaluation report focuses on First STEPS Phase II and assesses change in developmental, autism, and lead screening rates and related office system procedures in participating practices between the start of Phase II (May 2012) and the end of the initiative (November 2012). It also summarizes lessons learned in implementing changes in practices and challenges in using CHIPRA and IHOC developmental, autism, and lead screening measures at the practice-level to inform quality improvement. The report includes:

- An overview of the Phase II initiative, including the number of practices participating, measures to be improved, and targeted improvement goals.

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<sup>3</sup> CHIPRA quality demonstration grants are authorized by Section 401(d) of the Child Health Insurance Program Reauthorization Act (CHIPRA).

- An analysis of changes in developmental, autism, and lead screening rates and related office procedures before and after participation in the First STEPS learning sessions based on chart review, administrative data, and self-reported pre/post office surveys.
- A summary of interviews with participating practices and key stakeholders about how the initiative has affected practice workflow, identification of at-risk children, coordination of treatment and referral to community resources, and identified barriers to, and best practices for, raising developmental, autism, and lead screening rates, as well as how the initiative influenced or facilitated broader systems changes.

## Description of Phase II Initiative and Participating Practices

First STEPS Phase II, which focused on improving developmental, autism, and lead screenings in participating practices, began in May 2012 and ended in December 2012.

During the process of selecting child health quality measures for Maine's Improving Health Outcomes for Children CHIPRA demonstration grant, providers and other stakeholders indicated that these preventive screenings were not uniformly being conducted in the state and suggested that child-serving primary care practices could benefit from focused quality improvement. Early identification and intervention of developmental delays, autism and lead exposure has the potential to greatly improve the prognosis for children identified and potentially reduce the longer term negative consequences related to cognition, social functioning, and communication skills. However, available data prior to Phase II suggested that many children enrolled in MaineCare were not getting these screens at the recommended ages. For example, while MaineCare requires lead screening through lead tests at ages one and two for children enrolled in MaineCare, only 60% of one-year-olds and less than 30% of children age two insured by MaineCare had been tested.<sup>4</sup> Rates for developmental screening were even lower, with only 6% of one-year-olds and 2% of children ages two to three on MaineCare receiving developmental screening based on claims data prior to Phase II.<sup>5</sup>

All practices that had participated in First STEPS Phase I and serve a high volume of children insured by MaineCare (24 practices) were invited to participate in Phase II. As in Phase I, Maine Quality Counts offered monthly coaching calls, two all-day learning sessions, and tools for practices to track their developmental, autism, and lead screenings and report on change efforts such as the Plan-Do-Study-Act (PDSA) cycles. IHOC also purchased two validated general developmental screening tools – the Ages and Stages Questionnaire (ASQ) and the Parents' Evaluation of Developmental Status (PEDS) – and made these available to participating practices. Twelve pediatric and family practices, including 45 physicians that serve an estimated 20,000 children with MaineCare coverage, agreed to participate. Participation was lower in Phase II in part because many Phase I practices wanted to continue to support gains made in improving immunization rates and were concerned

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<sup>4</sup> Maine Childhood Lead Poisoning Prevention Program, 2010.

<sup>5</sup> Anderson, N, Meagher, T, Muskie School of Public Service, University of Southern Maine, *Improving Health Outcomes for Children Summary of Pediatric Quality Measures for Children Enrolled in MaineCare, FFY 2009-FFY2012, prepared for the Maine Department of Health and Human Services, April 2013.*

about change fatigue in introducing multiple quality improvement topics at the same time. In addition, some practices had previously been involved in prior grants focused on developmental and autism screenings, and therefore did not participate in Phase II. Phase II practices were allowed to choose which area they wished to focus on, so participation rates for each screening topic varied.

The overall goal of Phase II was to improve developmental, autism, and lead screening rates in participating practices by 50 percent from May 2012 to December 2012 based on chart review data by implementing changes in office procedures advocated by the American Academy of Pediatrics' Bright Futures Recommendations for Pediatric Preventive Care. Office system goals included incorporating screening tools in the office workflow, working on referral tracking for all patients, developing a list of community and medical resources for families and patients, thinking about care coordination and care plans for families, and involving families in quality improvement efforts. Phase II also set desired target screening rates (e.g. 75% of all children in a specific age group screened) in addition to the overall 50 percent increase.<sup>6</sup>

The First STEPS initiative uses a measure-driven quality improvement approach, which also has provided a mechanism for Maine's IHOC program to test how CHIPRA/IHOC measures can be used at the practice level to inform quality improvement. In planning for Phase II, IHOC/First STEPS staff investigated the feasibility of measuring practice-level developmental and autism screening rates using MaineCare administrative claims, to provide comprehensive population-based data to practices rather than sample data from chart review. However, existing procedure codes used in claims did not distinguish between general developmental screening and autism-specific screens or between screenings versus tests, and rates were lower than expected (less than 3%). During Phase II, MaineCare added modifiers to the developmental screening and assessment procedure codes (96110 and 96111) for autism screening (HI) and autism testing (HK) and communicated these changes at the learning sessions as well as clarifying reimbursement for each code so that First STEPS Phase II practices could pilot their use.<sup>7</sup> Practices seeking maintenance of certification (MOC) credit — 8 out of 12 participating practices — were required to review 20 charts per practice for multiple providers, and between 5 to 10 charts for a single provider in a practice for each measure shown in Table 1 on a monthly basis. Other practices could voluntarily report chart review data but were not required to do so. Table 1 shows the number of practices that provided chart review data for both the starting and ending months to assess change over time. The number of practices reporting varies by specific measure due to differences in practices ability to collect and report some of these measures.

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<sup>6</sup> Percent change is calculated as the difference between the two values, divided by the original value, and then multiplied by 100%. For example, an increase from 25% to 75% would be an increase by 200%.

<sup>7</sup> MaineCare separately reimburses providers for developmental screens, but low claims-based developmental screening rates suggested that providers have not been billing for this service and may not have been fully aware of this policy. Reimbursements for claims on developmental screening or M-CHAT I are \$8.99, while reimbursement for M-CHAT II is \$86.59.

**TABLE 1. CHART REVIEW MEASURES, NUMBER OF PRACTICES COLLECTING, AND TARGET IMPROVEMENT GOALS<sup>8,9,10,11</sup>**

| Measure   | Number of Practices Reporting                        | Target Improvement Goal     |
|---|--|-----------------------------|
| <b>1. Percent documented use of a developmental screening tool (PEDS or ASQ):</b><br>1a. by 12 mo (between 6-12 mo)<br>1b. by 24 mo (between 18-23 mo)<br>1c. by 36 mo (between 24-35 mo)<br>1d. Number of referrals to developmental pediatricians<br>1e. Number of referrals to CDS<br>1f. Percent documented use of an autism-specific screening tool (M-CHAT I or II) between 16-30 mo of age<br>1g. Percent children identified with a concern or developmental delay (referred on PEDS/ASQ or M-CHAT II) who have a documented follow-up plan (observation, recheck in office, or referral) | a: 7<br>b: 9<br>c: 9<br>d: 4<br>e: 3<br>f: 9<br>g: 2 | a-c, f, g: 75%<br>d, e: N/A |
| <b>2a. Percent of all children with whom a lead risk screening questionnaire was used to determine a child's level of risk:</b><br>2b. at 12 months (between 12-23 mo)<br>2c. at 24 months (between 24-35 mo)   | a-c: 9   | a: N/A<br>b-c: 75%          |
| <b>OPTIONAL: MaineCare Only</b>   |  |                             |
| <b>3. Percent of children enrolled in MaineCare that had a venous or capillary blood sample test for lead:</b><br>3a. ordered between 12-23 months<br>3b. ordered between 24-35 months<br>3c. results documented between 12-23 months<br>3d. results documented between 24-35 months  | a:6<br>b:6<br>c:5<br>d:5                             | N/A                         |

<sup>8</sup> Measures selected were based on CHIPRA (#8), and other Improving Health Outcomes for Children (IHOC) measures from EPSDT and Bright Futures guidelines and MaineCare requirements for lead testing.

<sup>9</sup> Nine of the twelve practices seeking MOC credit reported chart review data. One practice was not able to report reliable data until July and was not able to do chart reviews for two of the age groups. Two practices not seeking MOC credit voluntarily provided chart review data. The remaining two practices did not do chart reviews because they were not going for MOC credit and therefore data collection was optional.

<sup>10</sup> Number of practices reporting reflects practices that reported data at baseline and at the end of the initiative (May and November 2012).

<sup>11</sup> N/A: No target set.

| Measure   | Number of Practices Reporting | Target Improvement Goal |
|---|-------------------------------|-------------------------|
| <b>4. Percent of children enrolled in MaineCare who had a test for anemia</b> |                               |                         |
| 4a. ordered between 12-23 months  | ya:6                          | N/A                     |
| 4b. ordered between 24-35 months  | b:6                           |                         |
| 4c. results documented between 12-23 months                                   | c:5                           |                         |
| 4d. results documented between 24-35 months                                   | d:5                           |                         |

As part of the initiative, monthly reports were shared with each of the practice sites using random, de-identified codes to allow them to compare their own rates with average rates for all participating practices and with each of the other practices reporting chart review data.

## Evaluation Methods

We used a mixed methods approach to evaluate Phase II using both quantitative and qualitative data. To assess the degree to which screening and referral rates had improved, we analyzed chart review data from reporting practices, as well as MaineCare claims data, and administrative data supplied by other programs before and after the Phase II initiative. To assess the impact of participation on practice workflow, we analyzed self-reported pre/post office surveys completed by participating practices and supplemented this data with information provided in interviews with participating practices and other key stakeholders and programs.

### Chart Review Data

Rates of change were analyzed for developmental, autism, and lead screenings for the recommended age groups: developmental screening (ages 6-12 months, ages 18-23 months, and ages 24-35 months), autism screening (ages 16-30 months), and lead screening (ages 12-23 months and 24-35 months). Rates were compared from the first month of the initiative (May 2012) to November 2012. Three practices had one or more measures where October 2012 data had to be used as a proxy for November 2012 data due to data reporting issues. Nine of the twelve practices seeking MOC credit reported chart review data. One practice was not able to report reliable data until July and was not able to do chart reviews for two of the age groups. Two practices not seeking MOC credit voluntarily provided chart review data. The remaining two practices did not do chart reviews because they were not going for MOC credit and therefore data collection was optional. Practices submitted chart review data on all measures, regardless of whether their practice was specifically focused on the topic area. The data was cleaned to ensure reporting was accurate (e.g. the number of charts reported on a measure could not exceed the total number of charts reviewed). Average percentages were calculated for each measure during May and November 2012 for practices that reported data in both months. Reported averages are not weighted by the number of patients served per practice. For some measures, practices had the option of reporting chart

review data on the MaineCare population.<sup>12</sup> Change is measured by relative percent change to determine the degree to which participating practices improved their rates by the Phase II target goal of 50%.

### MaineCare Claims

For developmental and autism screening, in addition to chart review data, we analyzed MaineCare paid claims to determine whether the billing rates for these services had increased during the Phase II initiative. Paid claims for each type of screen or test (e.g. general developmental screening, autism-specific screening, autism-specific testing) were analyzed for First STEPS Phase II practices for a pre (May 2011-April 2012) and post (May 2012-April 2013) period and compared with the statewide rate for comparable settings<sup>13</sup> for the same period. We used the 96110 procedure code to identify general developmental screenings (e.g. ASQ, PEDS), 96110 with modifier HI for autism screenings (i.e. M-CHAT I), and 96111 with modifier HK for autism tests (i.e. M-CHAT II). To identify First STEPS Phase II practices and associated MaineCare children served at those practices, we used the list of providers seeking MOC or CME credit during any phase of First STEPS (Phase I through Phase III). All MaineCare children receiving services from these providers (which were limited to only those that received MOC or CME credit) were then assigned to that provider's primary practice. Members included in the Phase II practices could have one or more months of claims associated with the provider in the practice. The age of the child was calculated based on the time of the claim. Developmental screenings were analyzed using the 2012 CHIPRA developmental screening specifications.<sup>14</sup>

### Other Administrative Data

In addition to chart review and claims data, we assessed changes in Phase II referral rates for children identified as at-risk for developmental delays, autism, and/or high lead levels to other community resources based on other administrative data supplied by these entities. We requested statewide and Phase II practice referral numbers for pre and post periods (April/May 2012 – December 2012) from the office of Children Developmental Services (CDS) within the Maine Department of Education, the MCLPPP within the Maine Centers for Disease Control (ME CDC), and pediatric developmental specialists in the state. CDS provided the number of monthly developmental and autism referrals from Phase II practices between April 2012 and December 2012. One pediatric developmental specialist organization provided the number of monthly referrals from Phase II practices between January 2012 and April 2013. The MCLPPP provided charts on lead testing for one- and two-year-olds statewide, from 2003-2012.

### Surveys of Developmental, Autism, and Lead Screening-related Office Procedures

Changes in developmental, autism, and lead screening office procedures were assessed before and after First STEPS participation using the *Developmental, Autism, and Lead Screening Office Systems Survey* (April 2012 and November 2012). The survey was developed by Quality Counts using developmental screening questions

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12 One practice did not report this data for either month. Three practices had data reported for one or more measures only in either May or November 2012, but not in both months. Averages are based on practices that had data in both months.

13 Developmental screenings billed by non-primary care settings (e.g. school-based providers, speech therapist, occupational therapists) were excluded from the MaineCare statewide totals.

14 In 2012, CHIPRA modified measure specifications to include three age-specific indicators assessing whether children are screened by their first, second or third birthdays in the measurement year; 2011 specifications did not have this requirement. Therefore, statewide developmental screening rates may be different from those reported in the IHOC measures summary report.



adapted from a VCHIP<sup>15</sup> office system survey, which was piloted with 50 practices; lead and anemia questions were added to the Phase II survey. The Phase II office systems survey assessed the frequency with which practices implemented certain office processes and procedures known to be effective in raising developmental, autism, and lead screening rates and improving quality of care. Most surveys were completed by a physician in each office. Survey domains of specific office processes and procedures included:

- Developmental Surveillance
- Developmental Screening
- Autism Screening
- Follow-up and Referral
- Lead and Anemia Testing

Of the 12 practices in Phase II, eight practices answered both the pre and post survey, three practices answered only the pre survey, and one practice did not complete either the pre or post survey (data collection was optional for this practices since they were not getting MOC credit). For this evaluation, we limited the analyses of the office system survey to the eight practices that responded to both the pre and post surveys. For each question, responses were only analyzed for practices that responded to that question in both the pre and post survey. The detailed survey results are shown in Appendix A.

### Interviews with Practices and Other Key Stakeholders

To assess providers' experience with First STEPS Phase II and its impact on practice change as well as perceptions of how the initiative contributed to broader system changes, we conducted interviews with First STEPS Phase II practices and other key stakeholders and reviewed practice reports. The interviews with practices and key stakeholders were semi-structured, lasted 30-60 minutes, and took place between March-June 2013. All First STEPS Phase I practices were invited to participate in these interviews. Ten of the twelve practices agreed to participate. Interview questions focused on practice changes and improvements made by providers since participating in Phase II, perceived effectiveness of these changes, lessons learned in implementing improvements, recommendations for other practices that try to make similar changes, the perceived value and satisfaction with tracking developmental, autism, and lead screening data, and reflections on participating in First STEPS generally. Interviews with key stakeholders focused on their perceptions of Phase II and of changes resulting from Phase II initiatives. We also analyzed monthly reports completed by practices and submitted to Quality Counts describing their Plan-Do-Study-Act (PDSA) activities. Results from interviews and monthly reports were analyzed for recurring concepts, themes, and patterns. We also interviewed practice coaches to get their perspective on the implementation of Phase II.

In addition, we also interviewed key stakeholders in May/June 2013 to assess different organization's involvement and the perceived impact of the initiative on existing programs in the state. Stakeholders were identified as organizations or programs that presented at or participated in the Phase II learning sessions or were identified through interviews with the practices as being key community partners. Stakeholders interviewed included representatives from the MCLPPP, two pediatric developmental specialists, CDS, MaineCare program and

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<sup>15</sup> Vermont Child Health Improvement Program (VCHIP) is a population-based maternal and child health services research and quality improvement program of the University of Vermont. See <http://www.uvm.edu/medicine/vchip/>.

policy staff, IHOC staff involved with MaineCare on policy development, Maine's Children with Special Health Care Needs program, the Maine Disabilities Council that had a previous grant from the HRSA to improve autism screening, and staff at one Community Care Team (CCT) providing care support to a Phase II practice also participating in the MaineCare health home initiative. Semi-structured interviews focused on the perceived impact of First STEPS Phase II on referral rates to related providers, barriers encountered, and system-related changes resulting from the initiative.

### Evaluation Limitations

The evaluation uses a pre/post design and had no control group to measure factors other than the First STEPS learning sessions that may have contributed to developmental, autism, and lead screening rate improvements. We also relied on self-reported changes in office practices and procedures by the participating practices. The survey was administered by Maine Quality Counts as part of the initiative which may have biased responses towards demonstrating improvement. We did not analyze the statistical significance of changes due to the small number of practices reporting.

Developmental, autism, and lead screening rates are based on chart reviewed by practices.<sup>16</sup> Given the small number of charts reviewed, changes in percentages are more likely to show large fluctuations. In reviewing the data from the chart reviews, several practices consistently reported 0% or 100% over time on one or more measure. Others showed a large shift in rates between months, such as a high percentage one month, then no charts with that particular measure in the next month, and then 100% in the following month. These wide fluctuations and small sample size in the chart reviews were reasons for not assessing statistical significant in changes, and suggests that these data should be interpreted with caution.

There were other related initiatives and policy changes that occurred in Maine in the recent past that may have influenced developmental screening rates that we could not control for in this evaluation. Between 2010 and 2013, Maine had two different grants that supported pilot programs to improve autism screening and reduce the time from screening to diagnosis. Two of the First STEPS Phase II practices had participated in the pilot. The pilot also provided grand rounds at hospitals throughout the state about autism screening, which may have increased awareness and screening rates in hospital-affiliated practices.

## Findings

### General Developmental and Autism-Specific Screening

**Most practices focused on integrating general developmental screening into well child visits; fewer focused on screenings for autism.**

Phase II participating practices were allowed to select the specific screenings they wished to focus their quality improvement work on within their practice. Of the 10 practices interviewed, the vast majority (7 out of

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<sup>16</sup> Twenty charts were reviewed per practice for multiple providers, and between 5 to 10 charts for a single provider in a practice.



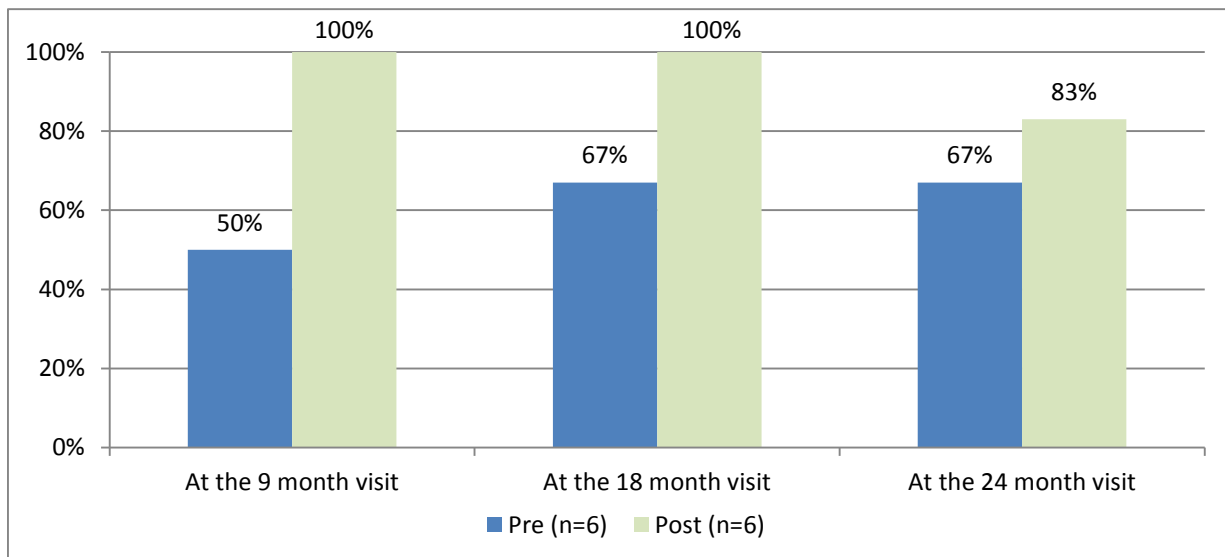
10) elected to focus on increasing general developmental screening for children under age 3. Four practices implemented autism screening. Based on interviews and PDSA reports, practices used several approaches to improve both developmental and autism screening rates including:

- using validated screening tools,
- screening at additional or at particular ages, and/or
- systematically integrating developmental screening into office workflows.

Most of the practices involved in Phase II adopted one of the two validated general developmental screening tools purchased by First STEPS for their use. Most practices chose the ASQ, although two practices elected to use the PEDS. While some practices were implementing developmental screening tools in their practice for the first time, many practices switched to the ASQ or the PEDS from other screening tools used previously (e.g. Bright Futures or the Denver Developmental Screening Test). Based on the office-systems surveys, none of the practices were using the ASQ before Phase II, while four out of six practices were using the ASQ for developmental screenings at the end of the initiative. For autism screenings, seven practices had been using the M-CHAT I prior to Phase II, but only two of seven practices were using the M-CHAT II. After Phase II three of seven practices reported using the M-CHAT II.

Practices using the new screening tools also adopted decision rules to administer the developmental or autism screens at particular ages. For example, several practices, including practices that had not systematically screened at particular ages previously, began screening at regular intervals (e.g. at 9, 15, 18, and 24 months). According to office systems surveys, developmental screenings at the 9 month and 18 month visits increased respectively by 100% and 49% (Chart A). Many practices phased in the changes either beginning with one provider and adding others over time or beginning with one screening (e.g. screening at 9 months of age) and adding others over time.

**CHART A. WHEN DO YOU CURRENTLY PERFORM DEVELOPMENTAL SCREENING IN YOUR PRACTICE? (CHECK ALL THAT APPLY)**



### Data Source: Office System Survey

Several factors were identified during practice interviews as contributing to the successful integration of developmental screening into well child visits. A few practices indicated that having a provider champion was integral to their success. Others indicated that phasing in changes to workflow was helpful because it allowed the practice to work out any kinks in the new processes before making practice-wide changes. Personnel from several practices said that they believed that it was important for them to involve all office personnel in discussions about changes to workflow in order to develop a feasible change to workflow.

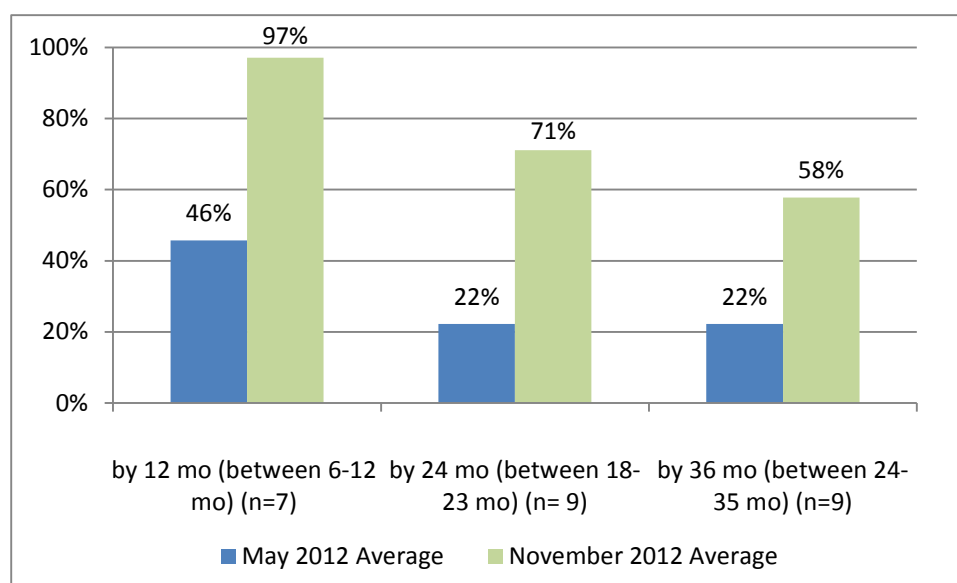
Nearly all of the practices working on developmental screening and testing quality improvement (QI) changed their practice workflow during QI implementation. Workflow changes were aimed at standardizing office visit processes. Changes included:

- doing pre-visit planning to identify children for whom developmental or autism screening was indicated,
- incorporating completion of parent/guardian questionnaires into the workflow either by mailing the screening tool to parents prior to the visit (and sometimes phoning the parent/guardian to remind them to complete the form) or by scheduling the appointment earlier to allow time for form completion,
- developing a reminder system for providers when a screen is indicated at a particular visit either through changes to the electronic medical record (EMR) or noting it on a paper form, improving the follow-up process subsequent to a positive screen, for example, in helping the families navigate the path after a provisional diagnosis is made, tracking consultation notes from specialty providers, and tracking and in some cases, encouraging follow through with the referral, and
- tailoring the autism screen questions that are embedded in the EMR to make them easier to read.

In addition, several practices indicated during interviews that they began tracking developmental screening, and some practices began billing for developmental and autism screens; two activities they had not done previously. A few practices made changes to their EMR to keep track of screens completed and screens that should be billed, and several practices began billing for developmental screens during Phase II. Some practices found that information communicated during a Phase II Learning Session about how to document and bill for completed screenings to be reimbursed by MaineCare was of great value. Results from the office survey suggest that practices also trained office staff or provided continuing education to conduct developmental surveillance and screening. Less than half indicated they provided these trainings prior to Phase II, while the vast majority (88%) had provided these training and education opportunities after Phase II. More practices also reported they integrated quality improvement efforts in their office procedures to monitor the effectiveness of surveillance and screening tools (13% pre, 63% post).

### **Global developmental screening rates more than doubled in all targeted age groups.**

The goal of Phase II was to increase selected screening rates by 50% over baseline and that 75% of children have a documented developmental screening using a validated tool (ASQ or PEDS) at the 9, 12-23, and 24-36 month well child visits. Based on chart review data, developmental screening rates in Phase II practices far exceeded the 50% improvement goal, more than doubling for children age one and under and 24-35 months and more than tripling for children 18-23 months (Chart B).

**CHART B. AVERAGE PERCENT DOCUMENTED USE OF A DEVELOPMENTAL SCREENING TOOL (PEDS OR ASQ)**

Data Source: Chart Reviews

The results from chart reviews were further confirmed in interviews with Phase II practices. Most of the practices reported significant increases in their developmental screening rates. Several indicated that, within certain age groups, the practice had gone from not performing any screens to performing them on all, or nearly all patients at the appropriate well child visit.

Phase II also set the goal that 75% of children between the ages of 16-24 months have a documented autism screening (M-CHAT I or M-CHAT II) and that 75% of children identified with a concern or developmental delay have a documented follow-up plan (observation, recheck in office, or referral). Based on chart reviews, Phase II practices exceeded the 75% target for M-CHAT I or II documentation for children ages 16-30 months, increasing from 56% to 82%.<sup>17</sup> Since only two practices were able to report chart review data for both pre and post on having a follow-up plan, we are not able to report on these results.

### **Increased billing and improved coding of developmental and autism screenings to MaineCare improved claims-based rates.**

As a part of focusing on improving developmental screening, IHOC and the state worked together to improve the data collected through MaineCare claims on developmental and autism screenings. Prior to Phase II, there were only procedure codes 96110 and 96111 for developmental screenings, but there was no way to identify M-CHAT screens that identify potential autism delays. To support these screenings, modifiers were added to the procedure codes to designate M-CHAT I (96110, HI) and M-CHAT II (96111, HK) screenings.

<sup>17</sup> Rates reflect all nine practices reporting chart review data, suggesting increased screening even in practices that did not specifically make changes in autism screening procedures.

Based on MaineCare claims, billing for developmental screening increased after new modifier codes and clarifications were piloted in First STEPS Phase II practices. Changes in developmental screening rates calculated from MaineCare claims in First STEPS Phase II practices far exceeded the 50% targeted improvement rate, increasing by 223% for children age one (from 5.3% in the year prior to Phase II to 17.1% in the year after Phase II), more than seven times (758%) for children age two (from 1.5% to 13.3%), and nearly doubling for children age three (from 1.2% to 3.3%). Statewide rates during this same period also increased at a more modest rate, potentially suggesting a ‘spread-effect’ of First STEPS Phase II and the related systems changes to other practices in the state (Table 2).

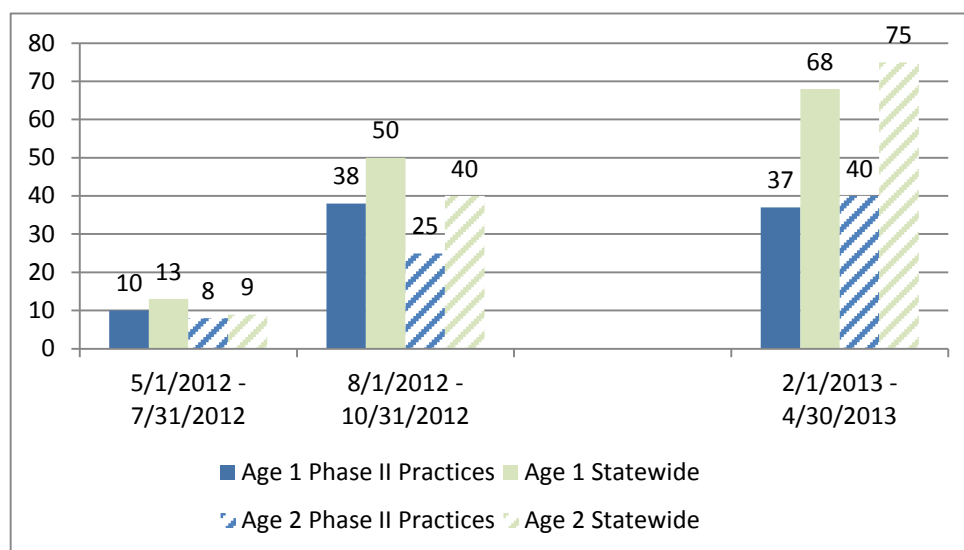
**TABLE 2. RATE OF DEVELOPMENTAL SCREENING BASED ON MAINECARE PAID CLAIMS**

| Age | First STEPS practices            |  |                | Statewide                        |  |                |
|-----|----------------------------------|--|----------------|----------------------------------|--|----------------|
|     | Before Phase II (5/1/11-4/30/12) | During/After Phase II (5/1/12-4/30/13) | Percent Change | Before Phase II (5/1/11-4/30/12) | During/After Phase II (5/1/12-4/30/13) | Percent Change |
| 1   | 5.3%                             | 17.1%                                  | 223%           | 3.8%                             | 9.4%                                   | 149%           |
| 2   | 1.5%                             | 13.3%                                  | 758%           | 6.0%                             | 12.1%                                  | 102%           |
| 3   | 1.2%                             | 3.3%                                   | 173%           | 4.0%                             | 8.6%                                   | 116%           |

Data Source: MaineCare Paid Claims, developmental screening measures based on CHIPRA #8 2012 measure specifications

Billing for M-CHAT I screens for one- and two-year-olds also has steadily increased since Phase II was implemented both statewide and in First STEPS Phase II practices, albeit at a lower rate than developmental screening. This may be due to some practices continuing to bill for autism screens under the 96110 developmental screening code. While autism screens are recommended up to age 3, there were no paid claims for this age group in Phase II practices or statewide.

**CHART C. AGE ONE AND TWO M-CHAT I SCREENINGS, NUMBER OF PAID CLAIMS**



Data Source: MaineCare Paid Claims

Very few claims were submitted statewide for the M-CHAT II, with none coming from First STEPS practices. This could be due to the small population that warrants an M-CHAT screening.

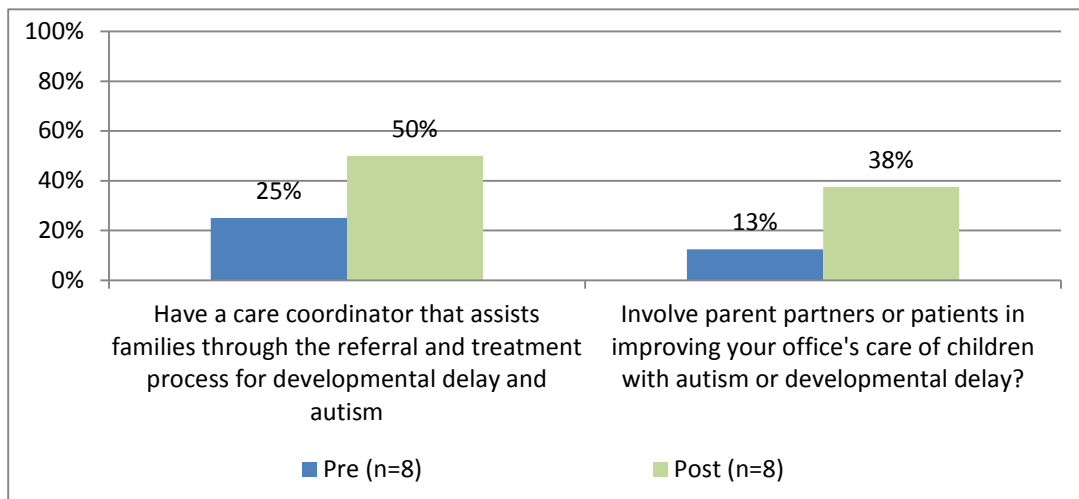
### Using new screening tools helped identify developmental delays earlier and engage parents.

Based on interviews, several practices that adopted the ASQ and PEDS screening tools felt that the practice was identifying more children with the new screening tool and personnel at one practice noted that the ASQ results provided additional information about a potential delay than the tool they had used previously. Furthermore, they indicated that this additional detail was useful when making referrals. At least one practice chose to purchase an additional ASQ ‘Toolkit’ that they provided to parents with helpful activities and ideas for stimulating development in particular areas. The practice said that this was useful for parents, particularly when there are lengthy delays between referral to follow-up treatment. One of the two practices that had adopted the PEDS form said that use of the tool empowered providers to discuss parental concerns about their child’s development in a way that hadn’t occurred previously.

Two of the practices that had focused on improving screening for autism indicated that the presentation by the parents of an autistic child at one of the Phase II learning sessions had inspired them to make changes to their office protocols for children with Autism Spectrum Disorder (ASD). To do so, they sought input from the family of a patient with ASD to ask about their experience during office visits to identify strategies for improving the experience of patients with ASD. Both offices modified their waiting rooms and instituted family-friendly policies, for example, escorting families of children with ASD to the examination room upon arrival if possible. Personnel at each of these practices spoke positively about the changes and credited First STEPS as the catalyst for the improvements.

Based on office surveys, after Phase II, more practices reported having a care coordinator who helped families with the referral and treatment process for developmental delay or autism. Practices also reported an increase in involving parent partners or patients in improving their office’s care of children with autism or developmental delay (Chart D).

**CHART D. INVOLVING PARENT PARTNERS OR PATIENTS IN IMPROVING CARE OF CHILDREN WITH AUTISM OR DEVELOPMENTAL DELAY**



Data Source: Office System Survey

### Increased tracking of children identified as at-risk and more follow-up and treatment referrals

As seen in Table 3, the survey revealed that most practices tracked at-risk children for developmental or autism issues by putting a note in the chart/EMR. After Phase II, fewer practices reported they had no systematic method for tracking, and more practices were recording it in a log/tracking sheet or contacting the case manager for a referral.

**TABLE 3. HOW DOES YOUR PRACTICE TRACK CHILDREN AT RISK FOR OR WITH A POSITIVE DEVELOPMENTAL OR AUTISM SCREENING RESULT? (CHECK ALL THAT APPLY)**

|  | Pre (n=8) | Post (n=8) |
|--|-----------|------------|
| Note in the chart/EMR  | 88%       | 100%       |
| Flag the chart/EMR   | 13%       | 13%        |
| Record it in a log or tracking sheet                             | 0%        | 13%        |
| Record it in a patient registry                                  | 0%        | 0%         |
| No systematic method for tracking                                | 25%       | 0%         |
| Other - problem list (added top problem list on EMR)             | 13%       | 13%        |
| Other - refer to care manager who completes the referral process | 0%        | 13%        |

Data Source: Office System Survey

Chart reviews showed that before Phase II, less than half of practices tracked developmental pediatrician or CDS referrals but after Phase II almost all (eight out of nine reporting in the chart reviews for developmental pediatricians and seven out of nine for CDS) were tracking these referrals.

Based on pre/post office surveys (n=6), all participating practices indicated they would follow-up on concerns noted during developmental screening at the next well child visit (up from 83% before Phase II). After Phase II, most practices also indicated they would schedule a specific visit to address the concern (83%), or refer the child to a developmental pediatrician (83%), and all practices said they would refer to early intervention through Child Development Services (CDS) and to audiology clinics for hearing tests. A third of practices also indicated they would refer to the Office of Child and Family Services (OCFS) Children's Behavioral Health program up from only 17% of practices before Phase II. Practices were less likely to refer concerns on developmental screens to a pediatric geneticist or a pediatric psychiatrist. Similarly, for children with a concern noted in an M-CHAT I or M-CHAT II screen, after Phase II practices were more likely to follow-up at the next well child visits, have a specific visit to address concerns identified, and refer to audiology, vision testing, pediatric neurologist and/or Children's Behavioral Health (OCFS). Interestingly, fewer practices reported they would complete the M-CHAT II or refer the child to a developmental pediatrician for diagnostic evaluation after Phase II (Table 4).

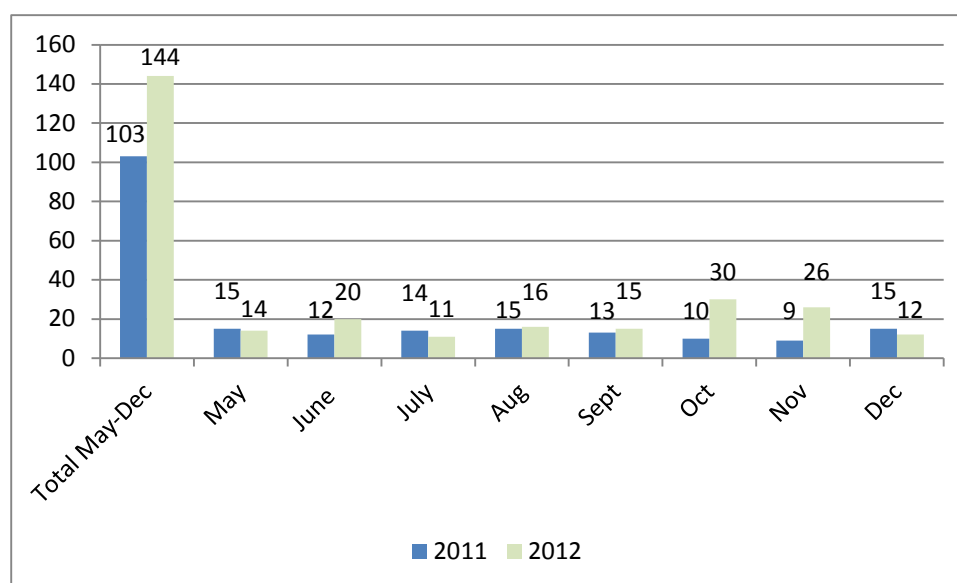
**TABLE 4. WHEN A CONCERN IS NOTED DURING THE DEVELOPMENTAL AND AUTISM SCREENING, WHAT ARE YOUR NEXT STEPS? (CHECK ALL THAT APPLY)**

|   | Developmental |            | Autism    |            |
|---|---------------|------------|-----------|------------|
|   | Pre (n=6)     | Post (n=6) | Pre (n=7) | Post (n=7) |
| Follow-up at the next well child check  | 83%           | 100%       | 43%       | 58%        |
| Follow-up with a specific visit to address the concern                                  | 67%           | 83%        | 29%       | 58%        |
| Refer the child to a developmental pediatrician   | 83%           | 83%        | 100%      | 86%        |
| Refer the child to a pediatric neurologist  | 50%           | 50%        | 14%       | 29%        |
| Refer the child to a pediatric geneticist   | 50%           | 33%        | 29%       | 29%        |
| Refer the child to a pediatric psychiatrist   | 50%           | 33%        | 29%       | 29%        |
| Refer the child to early intervention (CDS)   | 100%          | 100%       | 100%      | 86%        |
| Refer to audiology clinic/hearing test  | 100%          | 100%       | 43%       | 86%        |
| Refer for vision testing  | 50%           | 33%        | 14%       | 29%        |
| Refer to the Office of Child and Family Services (OCFS)<br>Children's Behavioral Health | 17%           | 33%        | 14%       | 29%        |
| Complete M-CHAT II  | N/A           | N/A        | 57%       | 29%        |

Data Source: Office System Survey

The survey also revealed that when a referral to a developmental pediatrician is noted, there was relatively no change in practices including the M-CHAT with the referral, or including a note about a concern of autism in the referral letter (data not shown).

Administrative referral data provided by CDS confirmed that Phase II practices were more regularly referring children with developmental issues. While statewide referrals to CDS declined slightly between May-Dec 2011 and May-Dec 2012, for Phase II practices, the average number of referrals to CDS increased by 40% — from an average of 13 per month in 2011 to 18 per month in 2012 (or from 103 to 144 referrals between the same eight month period in 2011 and 2012) (Chart E). The percent of developmental referrals to CDS by Phase II participating practices increased from 9% of the statewide referrals prior to Phase II (May-Dec 2011), to 14% of the statewide referrals during and after Phase II (May-Dec 2012).

**CHART E. NUMBER OF DEVELOPMENTAL REFERRALS TO CDS FROM PHASE II PRACTICES, MAY-DEC, 2011 AND 2012**

Data Source: Child Development Services (CDS)

In contrast, the percent of autism referrals to CDS by Phase II practices stayed relatively the same before and after Phase II, averaging less than one per month, which may reflect practice referral patterns. In interviews with pediatric developmental specialists, they indicated that practices are more likely to refer children with autism or suspected autism to a pediatric developmental specialist than to CDS. In fact, based on data provided by one pediatric developmental specialist, the annualized referral rate for children with autism increased from 27 prior to Phase II to 35 since Phase II was implemented.<sup>18</sup> Staff reported they were getting more referrals, but that some were inappropriate.

When children were referred for follow-up diagnostic or treatment services for developmental delays or autism, survey respondents (n=7) reported shorter timeframes from referral to getting follow-up care or further evaluation after Phase II. While on the pre-survey most practices (43%) estimated that getting follow-up could take two to three months, on the post-survey nearly two-thirds of practices (58%) said follow-up was done within one to two months of a referral. Similarly, most practices (43%) estimated that getting follow-up care for children with ASD could take two to three months or as much as three to five months (29%), but after Phase II, almost half of practices (43%) reported follow-up within one to two months of a referral.

**Phase II reduced some barriers to developmental screening, but lack of staff and limited referral sources are still problematic.**

Based on office surveys, practices reported several barriers to implementing developmental and autism screenings in their practice. Prior to Phase II, barriers included the cost of different developmental screening tools, lack of

<sup>18</sup> Annualized amount prior to First STEPS is based on January 2012-April 2012 data, annualized amount during/after First STEPS is based on May 2012-April 2013 data.



staff, lack of time, lack of training on performing screenings, overall cost to the practice, no referral source in the community, and the interruption to the flow of patients at the practice. After Phase II, practices were less likely to report these barriers. Not surprisingly, practices were far less likely to identify the cost of developmental screening tools or lack of training on using developmental and autism tools, as Quality Counts had purchased these tools for First STEPS practices. However, practices continued to report the barriers of lack of staff, lack of time, and interruption to the flow of patients at the practice.

### Lead and Anemia Screening and Testing

Maine requires lead testing (either capillary or venous test) for children insured by MaineCare at age one and age two. In addition, the Maine CDC Childhood Lead Poisoning Prevention Program recommends all children should be screened at age one and two for potential risk, and suggests that providers use a risk questionnaire to assess risk of lead poisoning which includes four questions about housing conditions, parental occupational exposure, as well as MaineCare enrollment. If a child is at risk for lead poisoning, a blood lead test is recommended, which can be either a capillary (finger stick) or venous (blood draw) lead test. This test is sent to the state Health and Environmental Testing Laboratory (HETL) for analysis. If there is an elevated screening (capillary) test, the child must have a follow-up venous test performed (blood draw). As of November 2012, Maine law allows approved providers to provide in-office blood lead testing of children under the age of six years using a direct-read blood lead analyzer. Test results must be electronically reported to the MCLPPP.

Lead and anemia screening is typically done at the same time. For anemia screening, the AAP recommends a hemoglobin test between the ages of 9-12 months with additional screening between the ages of 1-5 years for at risk patients. The Maine Women, Infants, and Children (WIC) Program provides annual anemia screening for children ages one and older.<sup>19,20</sup> The First STEPS initiative focused on screenings for children ages three and under to align with lead testing measures.

In the spring of 2012, when First STEPS Phase II was starting, the Centers for Medicare and Medicaid Services (CMS) released a letter to states that universal screening of children with Medicaid coverage for lead poisoning could be re-evaluated, and may change to a targeted lead screening approach. Since it was unclear which approach was going to be used, the initiative did not focus as heavily on lead screening as was originally intended.

#### Four practices focused on improving lead screening and one practice tested on-site.

During Phase II of First STEPS, four of the practices interviewed indicated that they began a focused effort to address lead screening or testing as part of their initiative. Other practices may have raised awareness about lead screening or testing, but did not implement specific changes within their practice.<sup>21</sup>

Of the practices that were addressing lead screening for Phase II, one practice incorporated the screen into

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19 The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk.

20 <http://www.maine.gov/dhhs/mecdc/local-public-health/wic/health/health-faq.shtml>.

21 All practices were required to answer questions on lead and anemia testing on the office survey and chart reviews, regardless of if they made explicit changes within their practice. For the four practices that focused on improving lead and anemia screening and testing, only one provided both pre and post survey information, and one practice was not able to report chart review data.

the well child visit workflow at 12 and 24 month well child visits (WCV). As with developmental and autism screening, the practice conducted pre-visit planning, pulling a report from the EMR to identify children due for WCVs and added lead screening to the “reason for the visit” section of the EMR. In addition the staff added a lead screening reminder to staff on the immunization cheat sheet that the practice had developed during Phase I of First STEPS. Additionally, the practice included the lead reminder for children coming in for WCVs at 12, 15, 18, and 24 months in order to catch up with children who had not been screened.

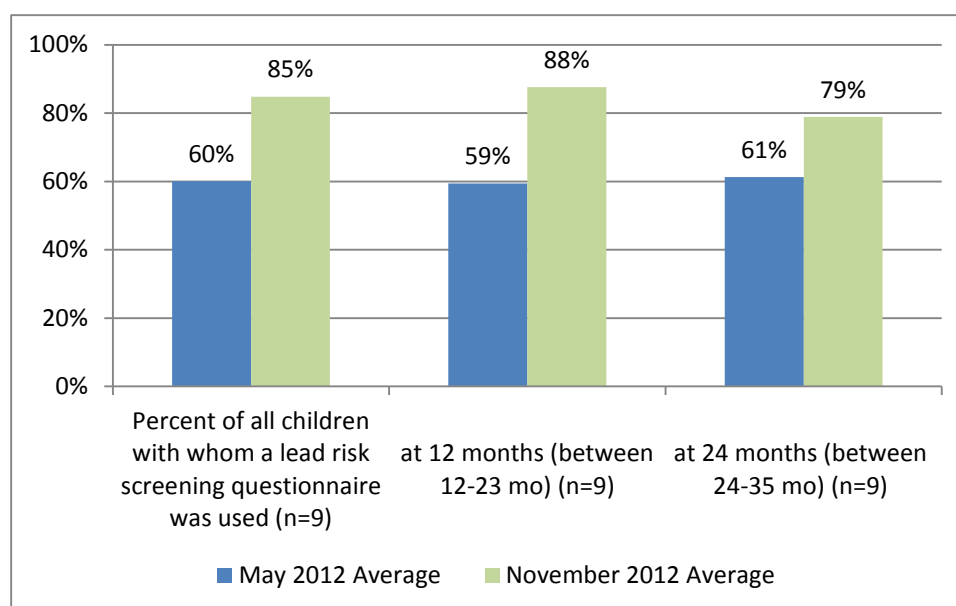
Another practice transitioned to capillary testing in the office (instead of ordering venous testing at a lab). This practice reported that once the machinery was obtained, the rollout was quite smooth. The practice phased in changes to the workflow to draw blood for testing, beginning with a single provider and adding other providers over time. The practice also phased in on-site lead testing, beginning with a focus on age one initially and then adding testing at age two as well.

Based on interviews with practices, while some practices/providers use the recommended questions to screen for lead exposure, others elected to forego the screener and test for high lead blood levels universally because they are located in a high risk area or they serve a high proportion of MaineCare patients. In collecting data for Phase II, one of these practices that recommend lead tests for virtually all children at 12 and 24 months, found that many of their patients were not following through with lead tests ordered. The Phase II data were shared with providers and the practice changed their procedures for ordering lead testing. Medical assistants (MA) began highlighting all WCVs due for lead testing and providers could begin sending patients directly to the lab in the building.

### **Increased lead screenings for children ages one and two in practices focusing on lead.**

Based on chart reviews, lead screening questionnaires had only been conducted about 60% of the time at the beginning of the initiative. After Phase II, practices reported that screens were used approximately 85% of the time (n=9). The greatest increase was seen among one-year-old children. For children age 12 and 24 months, the goal of 75% of children having a lead screening questionnaire was exceeded (88% at 12 months; 79% at 24 months) (Chart F). Survey data showed relatively no change in practices using the screening questionnaire (n=8).

**CHART F. AVERAGE PERCENT OF ALL CHILDREN WITH WHOM A LEAD RISK SCREENING QUESTIONNAIRE WAS USED, OVERALL AND BY AGE GROUP**

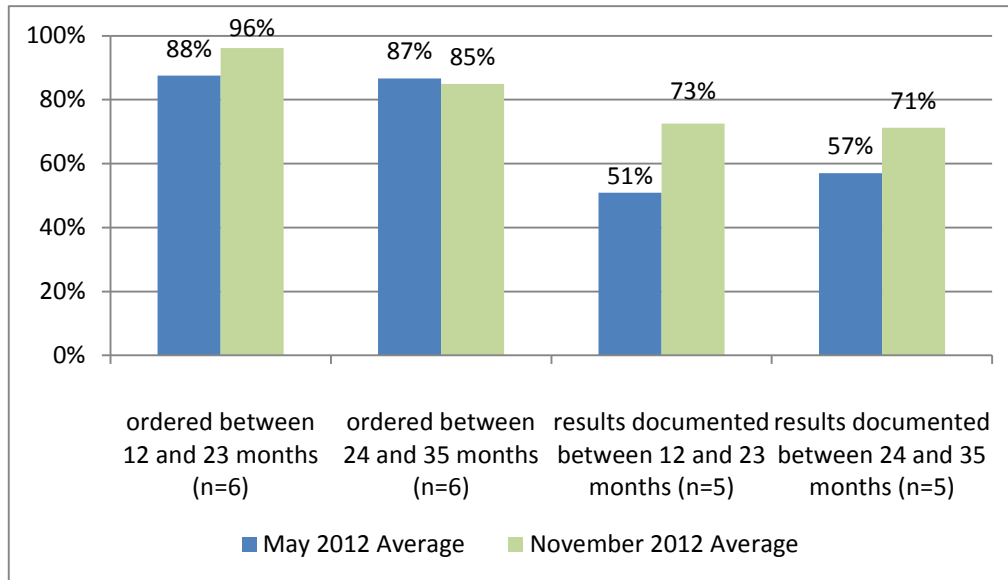


Data Source: Chart Reviews

Based on interviews, two practices that addressed lead screening and testing during Phase II reported that by the end of Phase II, the practice had achieved universal or nearly universal lead screening on their patient population at age one. Two other practices tightened up their lead screening and testing during the initiative even though they were not explicitly addressing lead screening during First STEPS.

**Lead and anemia testing rates remained the same but some improved in lead testing documentation.**

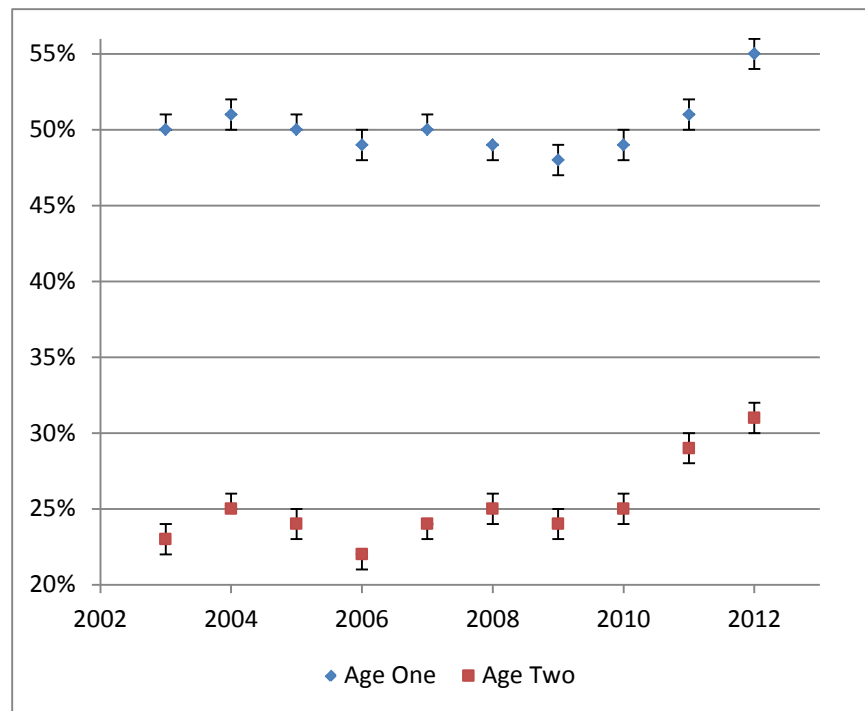
Based on the office systems survey and chart review data, there was no change in lead testing rates after Phase II because rates were high at the outset. Almost all practices indicated in the office survey that they order a lead test for children enrolled in MaineCare at 12-23 months, and 24-36 months both before and after Phase II (n=8). Prior to Phase II most practices ordered lead testing outside their office, but after Phase II more practices did lab tests at the point-of-care. Based on chart reviews, there was relatively no change in the percent of MaineCare children with a venous or capillary blood sample test for lead, but the documentation of the results increased from about a half to about three-quarters (Chart G).

**CHART G. AVERAGE PERCENT OF CHILDREN ENROLLED IN MAINECARE THAT HAD A VENOUS OR CAPILLARY BLOOD SAMPLE TEST FOR LEAD**

Data Source: Chart Reviews

Two practices did not make major changes to workflow related to lead screening, but did work with patients to ensure they got blood tests that had been ordered. One of these practices was able to increase lead testing uptake from 20% to about 70% at the end of the initiative.

Statewide lead testing rates supplied by the MCLPPP revealed that lead testing for one- and two-year-olds has been steadily increasing over the last several years and has increased at a faster rate between 2011 and 2012 (Chart H). While not specific to First STEPS practices, MCLPPP officials suggested that these improved testing rates may be related to both the work of First STEPS and increased education and outreach by the MCLPPP.

**CHART H: PERCENT OF ONE- AND TWO-YEAR-OLD CHILDREN WITH LEAD SCREENING AND LEAD TEST, STATEWIDE**

Data Source: Maine Lead Program based on lead tests submitted to HETL, not including Lead Care data

\* Vertical line above and below each square and diamond reflects the 95% confidence interval.

Based on office surveys, all practices reported that children enrolled in MaineCare/ WIC<sup>22</sup> routinely have a hemoglobin test for anemia ordered at 9-15 months, and most reported this occurs also at 24-36 months (n=8). Only 13% report a hemoglobin test at 18 months and/or three years. There was relatively no change in these percentages between the pre and post survey. Similarly, based on chart reviews, there was little change in children with MaineCare receiving a test for anemia and documenting the results.

#### **Tracking follow-up for blood tests and/or providing tests on-site helped improve compliance.**

Personnel at most practices interviewed indicated that having the capacity to perform the lead tests at or near the practice can markedly facilitate uptake of the blood test when ordered. The practice that implemented in-office capillary testing at the practice was able to make great gains in ensuring that children received the lead tests compared to when they had to go to another location to get the test. Another practice directed the patient's family to the lab immediately following the WCV and this practice helped improve the rate of follow-up. This practice indicated that data on the rate of ordered tests completed is very helpful in motivating positive change. Providers at this practice were initially quite surprised by the low rate of follow-up in obtaining ordered lead tests among their patient population.

<sup>22</sup> WIC is the Special Supplemental Nutrition Program for Women, Infants, and Children.

## Phase II Systems-Level Changes

**Successful piloting of new developmental screening codes in Phase II practices led to MaineCare implementing changes statewide.**

Based on interviews with MaineCare officials, one of the biggest benefits of First STEPS Phase II was that it provided a platform to get feedback from providers about how to improve claims data for the purposes of measuring developmental and autism screening rates and to pilot new billing codes and modifiers prior to implementing them statewide. The pre-Phase II planning work done by the IHOC team to assess whether claims-based developmental and autism screening measures could be used for Phase II data monitoring instead of chart review found much lower rates than expected (less than 3% statewide). This led to further investigation that revealed that, while MaineCare separately reimbursed for developmental screening, many providers were either not aware of this policy or were confused about which codes to use, what documentation was required, and the reimbursement available for different screens and tests. MaineCare also discovered that occupational therapists, physical therapists, and speech and language therapists were using the same code (96110) for other screens, resulting in outreach to these providers to clarify coding.

During Phase II learning sessions, MaineCare provided clarification to the primary care practices on procedure codes eligible for reimbursement, tools to use for autism screening (standardized tools – i.e. M-CHAT), and what is considered allowable. They also distributed guidance to First STEPS Phase II practices defining rates, codes, and modifiers, which several practices indicated were helpful in clarifying how screens could be reimbursed separately from the well child visit. Preliminary analyses of MaineCare claims in January 2013 confirmed that providers were able to submit claims with the modifiers and were paid appropriately. As a result, in May 2013, MaineCare developed and disseminated a provider communication statewide about the covered services, payment rates, and billing processes with the new modifiers to all MaineCare providers (Appendix B). The state also included the developmental screening measure as part of its MaineCare Health Homes initiative and conducted outreach to Health Home practices about new modifiers. By clearly communicating the MaineCare billing process and fee schedule for developmental and autism screening, MaineCare also hopes to promote the integration of these screens and related codes into the EMR for both data collection and practice improvement purposes. During Phase II, they found that at least one practice had included the modifiers in their EMR for documentation. Ultimately by making these changes, the state hopes to improve claims-based reporting, which will result in claims-based rates that are more reflective of actual practice in Maine.

The state plans to continue provider outreach regarding both the expectations of Maine's EPSDT<sup>23</sup> program in relationship to developmental screening, as well as the payment rates and new billing processes. One large health system is also working with two commercial insurers in the state to adopt similar developmental screening billing policies.

**Phase II identified the need for greater standardization of developmental screening between primary care and other educational and social service programs.**

As a result of Phase II, primary care practices identified gaps in communication in the existing developmental screening process between health and social service providers. Some practices that were implementing

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<sup>23</sup> The Early Periodic Screening, Diagnosis, and Treatment (EPSDT) Program is the child health component of Medicaid which is required in every state to improve the health of low-income children by financing appropriate and necessary pediatric services.

developmental screens for the first time in their practice discovered that some of their patients had already been screened by other community-based service agencies resulting in duplicative work for the parents in terms of completing questionnaires and, in some cases, conflicting results. These issues were raised with a broader group of stakeholders at IHOC's Maine State Coordinating Committee and the Maine Child Health Improvement Partnership (ME CHIP), which identified the need for greater standardization of screening across early intervention, education and social service agencies as well as greater communication of results with primary care.

The findings from Phase II led to greater coordination between IHOC staff and ME CHIP on developmental screening efforts across systems and programs in the state to be more inclusive of child primary care providers. While the topic is a priority for multiple groups, there was no clear driver for leading a coordinated effort of improvement that would involve healthcare, education, and early childhood development stakeholders. IHOC shared the Phase II experiences and lessons learned with staff at the Maine CDC and members of the State Agency Interdepartmental Early Learning and Development team and collaborated on developing an application for the HRSA Early Childhood Comprehensive Systems Grant to standardize developmental screening and sharing of results between social service, education, and clinical providers across the state.

In addition, practice feedback at Phase II learning sessions about existing reports and materials shared by CDS suggested potential changes or improvements to make these reports more useful to primary care providers about necessary follow-up.

### **Phase II helped spread autism systems change work to a larger number of practices.**

In 2010, prior to Phase II, the Maine Department of Health and Human Services (DHHS) Children with Special Health Care Needs (CSHCN) was awarded a three-year State Autism Implementation Grant (AIG) to improve autism screening, promote the medical home and care coordination, and to improve connections to evaluation and intervention services for at-risk children. The AIG grant had piloted autism screening tools in a few primary care and specialist settings, including two practices that participated in Phase II. The grant also supported training of providers on the M-CHAT via 16 grand rounds presentations to health systems. Based on interviews with stakeholders and state officials implementing that grant, the Phase II learning sessions became a natural extension of that grant and helped continue their systems change work by extending trainings and spreading successful strategies for implementing M-CHAT autism screenings to a broader group of practices. As one stakeholder indicated "There's value in recognizing that system change happens in stages, and they [First STEPS] were a very important part of continuing the systems change" and sharing lessons learned with more providers.

### **Phase II provided an opportunity for Maine Childhood Lead Poisoning Prevention Program to get provider feedback about the new law and other program activities.**

As identified by the MCLPPP, the most useful thing to have come out of First STEPS was their involvement with the pediatricians through two learning session presentations and two conference calls. The program got good feedback from the practices about what the program is doing and where it is going in the future. Not only was feedback on the new law helpful, but feedback about other program activities that involved providers was also helpful. These activities also provided the practices and the program with greater mutual familiarity, which has improved the quality and the level of communication.

During Phase II, the MCLPPP was implementing a new state law, "An Act to Increase the Availability of Lead



Testing for Children” (MSRA § 1319) which allowed for use of in-office lead testing devices. The rules relating to the Lead Poisoning Control Act were amended on October 20, 2012 to allow providers to perform in-office blood lead testing of children under age six years using a direct-read blood lead analyzer. Providers could start using in-office lead testing as of November 5, 2012. This legislation was implemented as an approach to help providers, especially those located in high risk areas. Providing onsite testing was expected to reduce barriers to follow up testing. Initially the initiative had planned to use the state registry system (ImmPact) as the vehicle for practices to report lead testing data to the state. When it was discovered that ImmPact could not be used to support lead testing reporting, the program sought feedback from First STEPS Phase II practices about different reporting scenarios, which influenced rulemaking and reporting form development for the offices using in-office lead testing.

Results from the on-site test are electronically reported via fax from electronic medical records (EMR) to the MCLPPP. Only two practices, one of which was in Phase II, are currently using in-office blood lead testing devices (LeadCareII), but it's anticipated that more practices will be joining in. In talking with Phase II practices, the Lead Program learned that several practices are unlikely to adopt on-site testing until the results can be linked to ImmPact, due to inefficiencies of double entering data. The one Phase II practice that is using LeadCareII previously had done capillary testing, but had an undesirably high level of false positives. The practice said it is too soon to tell if using Lead CareII has decreased the false positives. The other practice using LeadCareII previously received testing off site. Both LeadCareII practices are independently owned and each paid for an IT person to modify their EMR to directly fax the results to the Lead Program. When they began receiving the faxes (from the EMRs) there was a lot of back and forth communication to refine the reporting process.

## **Satisfaction with First STEPS Phase II and Lessons Learned**

### **Practices valued Phase II participation.**

Based on interviews with practices, all practices felt that their participation in First STEPS in general and Phase II in particular was helpful in focusing on improvement efforts on specific preventive screenings within their practices. Several practices felt that they were able to apply processes and tools developed during Phase I to Phase II topics. For example, two practices adapted their pre-visit planning tools and processes developed during Phase I to their developmental and lead screening initiatives under Phase II.

The learning sessions were highly valued by participants. Practice staff felt that attending in-person learning sessions helped to show them how to make improvements to office processes and workflow while also providing time during sessions for practices to develop plans for implementing such changes at their own practice. Several participants also indicated that the presentation about how to bill and document developmental screening in accordance with Maine Care requirements was very helpful.

Feedback on the Plan-Do-Study-Act reporting to First STEPS was mixed. While many valued the process and gained much from it, recording what they had done and reporting it to Quality Counts was time consuming. Coaching calls were also viewed positively but practices suggested less value in Phase II from coaches assigned to their practice, either because they did not have a coach or because they didn't have as great of a need for practice coaching during Phase II.

Practices also reported barriers to participation due to competing priorities. Several practices either did not participate or limited the scope of their Phase II work because they were in the midst of adopting or changing



their EMR systems. Others did not participate in Phase II because they wanted to continue their work on immunizations started during Phase I and could not concurrently work on both quality improvement (QI) projects. Practices serving adults and children have an even broader set of QI priorities, which competed with pediatric-specific QI projects.

### **Practice-level data seen as critical for quality improvement, but data collection remains a challenge.**

While practices saw the value of data-driven quality improvement and having access to practice-level monthly rates, they also reported many challenges around collecting and reporting data for Phase II. Not all practices had the capacity to pull data from their EMRs and collecting chart review data was time-consuming and only reflected a small number of patients which were not necessarily representative of the broader patient population. Several practices had hoped to develop technological solutions in their EMRs to support practice change, but most were unable to make these changes during the initiative. Several Phase II practices reported that they either were not able to get data on screening from their EMR, could not produce rates by age, or could not trust that the data pulled from their EMR systems were accurate. While Phase II practices did increase billing to MaineCare for developmental and autism screens, only one practice was able to make changes during Phase II to the practice EMR to support billing for these services.

## **SUMMARY AND CONCLUSION**

In this evaluation, we found that practices that participated in First STEPS Phase II made significant improvements in their developmental screening rates for children under age three, and to a lesser extent autism and lead screening. Nearly all of the practices had adopted one of the two standardized tools that had been purchased by First STEPS, with the vast majority choosing to implement the Ages and Stages Questionnaire (ASQ). Practices integrated these tools into their workflow using a variety of approaches and by engaging the office team. After Phase II, developmental screening rates from chart reviews more than doubled for children age one and three, more than tripled for children age two, and nearly all children under age one (97%) had received a standardized screen. While still low, developmental screening rates based on MaineCare claims also increased significantly after Phase II in participating practices, particularly for children age one (to 17% screened) and age two (to 13% screened). Although fewer practices focused on implementing autism and lead screening, practices that did also saw improvement in their rates. Referrals to pediatric developmental specialists and Children's Developmental Services from Phase II practices also increased, suggesting that more children are being identified for early intervention.

In addition to improving screening rates and referrals, Phase II also contributed to broader system changes that are likely to enhance screening processes and measurement in the future. Phase II highlighted data issues and challenges in measuring different types of developmental screenings using claims data. This ultimately led to changes in statewide MaineCare billing policies and procedures which are intended to improve the accuracy of these data in order to generate population-based screening rates that are more reflective of actual practice going

forward. Phase II also provided an opportunity to spread lessons learned from previous state efforts to improve autism screening and treatment to more practices and to engage providers in defining a process for reporting lead testing results to the state for new in-office lead testing.

**Appendix A: Office Survey Results: Only practices responding to both pre and post surveys, matched by question (i.e. pairing only practices that responded to specific question in pre and post)**

|                  | <b>Pre</b> | <b>Post</b>    |
|------------------|------------|----------------|
| <b>StartDate</b> | 4/1/2012   | 11/2012-1/2013 |
| <b>EndDate</b>   | 4/1/2012   | 11/2012-1/2013 |

|                              |   |   |
|------------------------------|---|---|
| <b>Number of respondents</b> | 8 | 8 |
|------------------------------|---|---|

| <b>Role of person completing the survey(write in)</b> | <b>Pre (n=7)</b> | <b>Post (n=7)</b> |
|---|------------------|-------------------|
| Clinical Coordinator                                  | 29%              | 29%               |
| Pediatric Clinical Manager                            | 14%              | 0%                |
| Physician Champion/Leader                             | 29%              | 43%               |
| Physician   | 14%              | 29%               |
| Medical assistant                                     | 0%               | 14%               |

| <b>Role of provider giving clinical input</b> | <b>Pre (n=7)</b> | <b>Post (n=7)</b> |
|---|------------------|-------------------|
| MD/Physician                                  | 29%              | 43%               |
| Physician Champion/Leader                     | 43%              | 29%               |
| Practice Medical Director                     | 14%              | 14%               |
| RN  | 14%              |                   |

| <b>Do you have a standard approach to developmental surveillance in your practice?</b> | <b>Pre (n=7)</b> | <b>Post (n=7)</b> |
|--|------------------|-------------------|
| Yes  | 100%             | 100%              |

| <b>When do you currently complete the process of surveillance?</b>        | <b>Pre (n=7)</b> | <b>Post (n=7)</b> |
|---|------------------|-------------------|
| At all visits (well and sick)   | 29%              | 14%               |
| At all well visits  | 71%              | 71%               |
| At selected visits  | 0%               | 14%               |
| Whenever a parental concern is expressed                                  | 0%               | 0%                |
| Other - We also complete the process when a parental concern is expressed | 0%               | 13%               |

| <b>Do you currently perform developmental screening in your practice using a standard tool?</b> | <b>Pre (n=8)</b> | <b>Post (n=8)</b> |
|---|------------------|-------------------|
| Yes   | 88%              | 88%               |
| No  | 13%              | 13%               |

| <b>When do you currently perform developmental screening in your practice? (check all that apply)</b> | <b>Pre (n=6)</b> | <b>Post (n=6)</b> |
|---|------------------|-------------------|
| At the 9 month visit  | 50%              | 100%              |
| At the 18 month visit   | 67%              | 100%              |
| At the 24 month visit   | 67%              | 83%               |
| At the 30 month visit   | 0%               | 0%                |
| At every well child visit   | 67%              | 17%               |
| When surveillance demonstrates risk   | 33%              | 33%               |
| Whenever a parental concern is expressed  | 50%              | 50%               |
| At 15 mo well child   | 17%              | 17%               |

| <b>Which developmental screening tool(s) do you currently use? (check all that apply)</b> | <b>Pre (n=6)</b> | <b>Post (n=6)</b> |
|---|------------------|-------------------|
| Ages and Stages (ASQ)   | 0%               | 67%               |
| Parents' Evaluation of Development Status (PEDS)  | 50%              | 33%               |
| Developmental screening questions on the Bright Futures forms                             | 67%              | 33%               |
| Denver II   | 17%              | 17%               |
| Pre-screening Developmental Questionnaire (PDQ)   | 0%               | 0%                |
| Bayley Infant Neuro-developmental Screener (BINS)   | 0%               | 0%                |
| Other M-CHAT  | 67%              | 50%               |

| <b>When a concern is noted during the developmental screening, what are your next steps? (check all that apply)</b> | <b>Pre (n=6)</b> | <b>Post (n=6)</b> |
|---|------------------|-------------------|
| Follow-up at the next well child check  | 83%              | 100%              |
| Follow-up with a specific visit to address the concern  | 67%              | 83%               |
| Refer the child to a developmental pediatrician   | 83%              | 83%               |
| Refer the child to a pediatric neurologist  | 50%              | 50%               |
| Refer the child to a pediatric geneticist   | 50%              | 33%               |
| Refer the child to a pediatric psychiatrist   | 50%              | 33%               |
| Refer the child to early intervention (CDS)   | 100%             | 100%              |
| Refer to audiology clinic/hearing test  | 100%             | 100%              |
| Refer for vision testing  | 50%              | 33%               |
| Refer to the Office of Child and Family Services (OCFS) Children's Behavioral Health                                | 17%              | 33%               |
| Other   | 0%               | 0%                |

| <b>Please rate, on a scale of 1-5, to what degree the following items are barriers to implementing developmental screening in your practice.</b> | <b>Pre (n=6)</b>  |                   |                           |                |                |     |
|--|-------------------|-------------------|---------------------------|----------------|----------------|-----|
|  | Strongly disagree | Somewhat disagree | Neither agree or disagree | Somewhat agree | Strongly agree | N/A |
| Cost of tool   | 33%               | 0%                | 0%                        | 50%            | 0%             | 17% |
| Lack of staff  | 17%               | 0%                | 33%                       | 29%            | 0%             | 17% |
| Lack of time   | 0%                | 0%                | 0%                        | 33%            | 50%            | 17% |
| Lack of training on performing screening   | 17%               | 17%               | 0%                        | 50%            | 0%             | 17% |
| No referral source in the community  | 17%               | 33%               | 17%                       | 17%            | 0%             | 17% |
| Overall cost to practice   | 17%               | 17%               | 33%                       | 17%            | 0%             | 17% |
| Screening interrupts the flow of patients at the practice  | 0%                | 0%                | 17%                       | 50%            | 17%            | 17% |
| Other  | 0%                | 0%                | 0%                        | 0%             | 0%             | 33% |

| Please rate, on a scale of 1-5, to what degree the following items are barriers to implementing developmental screening in your practice. | Post (n=6)        |                   |                           |                |                |     |
|---|-------------------|-------------------|---------------------------|----------------|----------------|-----|
|   | Strongly disagree | Somewhat disagree | Neither agree or disagree | Somewhat agree | Strongly agree | N/A |
| Cost of tool  | 50%               | 0%                | 33%                       | 0%             | 0%             | 17% |
| Lack of staff   | 17%               | 0%                | 33%                       | 33%            | 0%             | 17% |
| Lack of time  | 17%               | 0%                | 0%                        | 50%            | 17%            | 17% |
| Lack of training on performing screening  | 17%               | 33%               | 17%                       | 17%            | 0%             | 17% |
| No referral source in the community   | 17%               | 50%               |                           | 17%            | 0%             | 17% |
| Overall cost to practice  | 17%               | 17%               | 33%                       | 17%            | 0%             | 17% |
| Screening interrupts the flow of patients at the practice   | 17%               | 0%                | 17%                       | 50%            | 0%             | 17% |
| Other   | 0%                | 0%                | 0%                        | 0%             | 0%             | 17% |

| Do you currently perform autism screening in your practice? | Pre (n=8) | Post (n=8) |
|---|-----------|------------|
| Yes   | 88%       | 100%       |
| No  | 13%       | 0%         |

| What autism screening tool(s) do you currently use? (check all that apply) | Pre (n=7) | Post (n=7) |
|--|-----------|------------|
| Modified Checklist for Autism in Toddlers (M-CHAT) Part I                  | 100%      | 100%       |
| Modified Checklist for Autism in Toddlers (M-CHAT) Part 2                  | 29%       | 43%        |
| Other  | 0%        | 0%         |

| <b>When do you currently perform autism screening in your practice? (check all that apply)</b> | <b>Pre (n=7)</b> | <b>Post (n=7)</b> |
|--|------------------|-------------------|
| At the 18 month visit  | 100%             | 100%              |
| At the 24 month visit  | 86%              | 71%               |
| At the 30 month visit  | 29%              | 14%               |
| At every well child visit  | 14%              | 14%               |
| When surveillance demonstrates risk  | 29%              | 29%               |
| Whenever a parental concern is expressed   | 14%              | 57%               |
| Other  | 0%               | 0%                |

| <b>When a concern is noted during the autism screening, what are your next steps? (check all that apply)</b> | <b>Pre (n=7)</b> | <b>Post (n=7)</b> |
|--|------------------|-------------------|
| Follow up at the next well child check   | 43%              | 58%               |
| Follow up with a specific visit to address concern   | 29%              | 58%               |
| Complete the M-CHAT Part 2   | 57%              | 29%               |
| Refer the child to a developmental pediatrician for diagnostic evaluation                                    | 100%             | 86%               |
| Refer the child to a pediatric neurologist   | 14%              | 29%               |
| Refer the child to a pediatric geneticist  | 29%              | 29%               |
| Refer the child to a pediatric psychiatrist  | 29%              | 29%               |
| Refer the child to early intervention, CDS   | 100%             | 86%               |
| Refer to audiology clinic/ hearing test  | 43%              | 86%               |
| Refer for vision testing   | 14%              | 29%               |
| Refer to the Office of Child and Family Services (OCFS) Children's Behavioral Health                         | 14%              | 29%               |
| Other  | 0%               | 0%                |

|   | Pre (n=7) |     | Post (n=7) |     |
|---|-----------|-----|------------|-----|
|   | Yes       | No  | Yes        | No  |
| <b>If a referral is made to a developmental pediatrician, are the following typically done?</b> |           |     |            |     |
| A copy of the M-CHAT included   | 71%       | 29% | 86%        | 14% |
| A concern for autism noted in the referral letter   | 86%       | 14% | 71%        | 29% |

|   | Pre (n=7)         |                   |                           |                |                |     |
|---|-------------------|-------------------|---------------------------|----------------|----------------|-----|
|   | Strongly disagree | Somewhat disagree | Neither agree or disagree | Somewhat agree | Strongly agree | N/A |
| <b>Please rate, on a scale of 1-5, to what degree the following items are barriers to implementing autism screening in your practice.</b> |                   |                   |                           |                |                |     |
| Cost of tool  | 57%               | 0%                | 29%                       | 0%             | 0%             | 14% |
| Lack of staff   | 14%               | 43%               | 14%                       | 14%            | 0%             | 14% |
| Lack of time  | 0%                | 14%               | 29%                       | 29%            | 14%            | 14% |
| Lack of training on performing screening  | 14%               | 14%               | 29%                       | 0%             | 29%            | 14% |
| No referral source in the community   | 14%               | 43%               | 14%                       | 14%            | 0%             | 14% |
| Overall cost to practice  | 29%               | 29%               | 14%                       | 0%             | 14%            | 14% |
| Screening interrupts the flow of patients at the practice   | 14%               | 14%               | 29%                       | 14%            | 14%            | 14% |
| Other   | 0%                | 0%                | 0%                        | 0%             | 0%             | 43% |



| Please rate, on a scale of 1-5, to what degree the following items are barriers to implementing autism screening in your practice. | Post (n=7)        |                   |                           |                |                |     |
|--|-------------------|-------------------|---------------------------|----------------|----------------|-----|
|  | Strongly disagree | Somewhat disagree | Neither agree or disagree | Somewhat agree | Strongly agree | N/A |
| Cost of tool   | 57%               | 14%               | 14%                       | 0%             | 0%             | 14% |
| Lack of staff  | 29%               | 29%               | 0%                        | 14%            | 0%             | 14% |
| Lack of time   | 29%               | 0%                | 14%                       | 29%            | 0%             | 14% |
| Lack of training on performing screening   | 29%               | 14%               | 29%                       | 0%             | 0%             | 14% |
| No referral source in the community  | 29%               | 29%               | 0%                        | 14%            | 0%             | 14% |
| Overall cost to practice   | 43%               | 14%               | 14%                       | 0%             | 0%             | 14% |
| Screening interrupts the flow of patients at the practice  | 29%               | 0%                | 14%                       | 29%            | 0%             | 14% |
| Other  | 0%                | 0%                | 14%                       | 0%             | 0%             | 14% |

| How does your practice track children at risk for or with a positive developmental or autism screening result? (check all that apply) | Pre (n=8) | Post (n=8) |
|---|-----------|------------|
|   |           |            |
| Note in the chart/EMR   | 88%       | 100%       |
| Flag the chart/EMR  | 13%       | 13%        |
| Record it in a log or tracking sheet  | 0%        | 13%        |
| Record it in a patient registry   | 0%        | 0%         |
| No systematic method for tracking   | 25%       | 0%         |
| Other - problem list (added top problem list on EMR)  | 13%       | 13%        |
| Other - refer to care manager who completes the referral process  | 0%        | 13%        |

| Pre (n=7)   |                               |                               |                               |                               |                                |                           |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|---------------------------|
| When a child is referred for diagnosis and treatment as a result of a positive developmental or autism screen, approximately how long after the referral does the evaluation occur? | Within 1-2 months of referral | Within 2-3 months of referral | Within 3-5 months of referral | Within 6-9 months of referral | Within 9-12 months of referral | > One year after referral |
| Developmental Screen  | 14%                           | 43%                           | 14%                           | 14%                           | 14%                            | 0%                        |
| Autism Screen   | 14%                           | 43%                           | 29%                           | 0%                            | 14%                            | 0%                        |
| Other   |                               |                               |                               |                               |                                |                           |

| Post (n=7)  |                               |                               |                               |                               |                                |                           |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|---------------------------|
| When a child is referred for diagnosis and treatment as a result of a positive developmental or autism screen, approximately how long after the referral does the evaluation occur? | Within 1-2 months of referral | Within 2-3 months of referral | Within 3-5 months of referral | Within 6-9 months of referral | Within 9-12 months of referral | > One year after referral |
| Developmental Screen  | 58%                           | 29%                           | 0%                            | 14%                           | 0%                             | 0%                        |
| Autism Screen   | 43%                           | 14%                           | 14%                           | 14%                           | 14%                            | 0%                        |
| Other   |                               |                               |                               |                               |                                |                           |

| Do you have a care coordinator that assists families through the referral and treatment process for developmental delay and autism? | Pre (n=8) | Post (n=8) |
|---|-----------|------------|
| Yes   | 25%       | 50%        |
| No  | 75%       | 50%        |

| <b>Do you involve parent partners or patients in improving your office's care of children with autism or developmental delay?</b> | <b>Pre (n=8)</b> | <b>Post (n=8)</b> |
|---|------------------|-------------------|
| Yes   | 13%              | 38%               |
| No  | 88%              | 63%               |

**If yes, describe how (post responses only - no pre responses provided)**

Other - Get their input about how to help them

Other - recently identified a parent partner who is eager to work with our practice's care of children with autism

| <b>How frequently do families of children with or at risk for developmental delays receive information on early intervention/school-based interventions/community programs?</b> | <b>Pre (n=8)</b> | <b>Post (n=8)</b> |
|---|------------------|-------------------|
| Never   | 0%               | 13%               |
| Rarely  | 25%              |                   |
| Sometimes   | 25%              | 38%               |
| Routinely   | 50%              | 50%               |

| <b>Does your practice integrate any QI efforts in your office procedures to monitor the effectiveness of surveillance and screening tools?</b> | <b>Pre (n=8)</b> | <b>Post (n=8)</b> |
|--|------------------|-------------------|
| Yes  | 13%              | 63%               |
| No   | 88%              | 38%               |

| <b>Does your practice teach office staff through training or continuing education efforts to conduct developmental surveillance and screening?</b> | <b>Pre (n=8)</b> | <b>Post (n=8)</b> |
|--|------------------|-------------------|
| Yes  | 38%              | 88%               |
| No   | 63%              | 13%               |

|   | <b>Pre (n=8)</b> |     | <b>Post (n=8)</b> |      |
|---|------------------|-----|-------------------|------|
| <b>Does your office use a screening questionnaire for lead risk at (check all that apply)</b> | Yes              | No  | Yes               | No   |
| 9 months  | 25%              | 75% | 25%               | 75%  |
| 12 months   | 63%              | 38% | 63%               | 38%  |
| 18 months   | 38%              | 63% | 25%               | 75%  |
| 24 months   | 50%              | 50% | 50%               | 50%  |
| 36 months   | 25%              | 75% | 0%                | 100% |

|   | <b>Pre (n=8)</b> |     | <b>Post (n=8)</b> |     |
|---|------------------|-----|-------------------|-----|
| <b>Do children enrolled in WIC/ MaineCare routinely have a hemoglobin ordered at (check all that apply)</b> | Yes              | No  | Yes               | No  |
| 9-15 months   | 100%             | 0%  | 100%              | 0%  |
| 18 months   | 14%              | 86% | 13%               | 88% |
| 24-36 months  | 75%              | 25% | 63%               | 38% |
| 3 years   | 14%              | 86% | 13%               | 88% |

|   | <b>Pre (n=8)</b> |     | <b>Post (n=8)</b> |     |
|---|------------------|-----|-------------------|-----|
| <b>Do children enrolled in MaineCare get a lead test ordered at ages 1 and 2?</b> | Yes              | No  | Yes               | No  |
| 12-23 months  | 100%             | 0%  | 88%               | 13% |
| 24-36 months  | 88%              | 13% | 75%               | 25% |

| <b>Where do children in your office go to have lab tests completed? Please select top 1-2 locations.</b> | <b>Pre (n=8)</b> | <b>Post (n=8)</b> |
|--|------------------|-------------------|
| Our office does most lab tests   | 25%              | 50%               |
| A lab in our office building   | 38%              | 25%               |
| At a lab in the hospital located in our office complex   | 25%              | 25%               |
| At a hospital lab greater than 1 mile from our office  | 25%              | 0%                |
| At a free standing lab   | 0%               | 0%                |
| Other - hospital less than 1 mile away   | 13%              | 0%                |
| Other - we can do hemoglobin and leads from capillary specimens - otherwise need to go to lab            | 13%              | 0%                |

# IHOC MaineCare Update—May 2012



## IMPROVING OUTCOMES FOR CHILDREN (IHOC)

<http://www.maine.gov/dhhs/oms/provider/childrens.html#ihoc>

May 4, 2012

### BRINGING IT UP-TO-DATE...

The chart of Current Procedural Terminology (CPT) codes presented below reflects current MaineCare billing policy for the administration of global developmental and autism-specific screening tools. These codes are consistent with the National Correct Coding Initiative (NCCI) and are applicable to paper claims and Direct Data Entry claims.

### FIND OUT MORE

**The payment rates** for these and other services can be found in the MaineCare Provider Fee Schedule at <https://mainecare.maine.gov/Provider%20Fee%20Schedules/Forms/Publication.aspx>.

**For more information** about billing codes and procedures, please visit the MaineCare Services Provider Homepage, HealthPAS-Online, at <https://mainecare.maine.gov/ProviderHomePage.aspx>.

### CPT Codes for Billing of Global Developmental and Autism-Specific Screening Tools

| CPT   | Modifier | Description of Service  | Applicable Screening Tool                             | Rate    |
|-------|----------|---|---|---------|
| 96110 | None     | developmental screening w/ interpretation & report, standard form | Global developmental screening tool (i.e., ASQ, PEDS) | \$8.99  |
| 96110 | HI       | developmental screening w/ interpretation & report, standard form | Autism-specific screening tool (MCHAT-1)              | \$8.99  |
| 96111 | HK       | developmental testing w/ interpretation & report                  | Autism-specific screening tool (MCHAT-2 only)         | \$86.59 |

#### NOTES:

96110 and 96111 cannot be billed on the same day for the same member.

96110 and any EM CPT code can be billed on the same day without a modifier on the EM code; NCCI does not bundle payment for these services. Any EM CPT code billed on the same day as 96111 will need to have modifier 25 appended, to prevent bundling of payment per NCCI edit.

EM = Evaluation and Management Service.

HI = Integrated mental health and mental retardation/developmental disabilities program.

HK = Specialized mental health programs for high risk populations.